

The Self-Stigma of Depression Scale (SSDS): development and psychometric evaluation of a new instrument

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Abstract

Self-stigma may feature strongly and be detrimental for people with depression, but the understanding of its nature and prevalence is limited by the lack of psychometrically-validated measures. This study aimed to develop and validate a measure of self-stigma about depression. Items assessing self-stigma were developed from focus group discussions, and were tested and refined over three studies using surveys of 408 university students, 330 members of a depression Internet network, and 1312 members of the general Australian public. Evaluation involved item-level and bivariate analyses, and factor analytic procedures. Items performed consistently across the three surveys. The resulting Self-Stigma of Depression Scale (SSDS) comprised 16 items representing subscales of Shame, Self-Blame, Social Inadequacy, and Help-Seeking Inhibition. Construct validity, internal consistency and test–retest reliability were satisfactory. The SSDS distinguishes self-stigma from perceptions of stigma by others, yields in-depth information about self-stigma of depression, and possesses good psychometric properties. It is a promising tool for the measurement of self-stigma and is likely to be useful in further understanding self-stigma and evaluating stigma interventions. Copyright © 2010 John Wiley & Sons, Ltd.

Introduction

Internalisation of negative stereotypes about mental illness has begun to receive greater attention in the literature in recent years. It is known that anticipation and fear of stigmatising responses from others are common in people with mental illness (Angermeyer *et al.*, 2004) and sufferers may internalise the stigmatising views they perceive (Corrigan, 1998).

In relation to depression specifically, there is qualitative evidence that some people with depression feel guilt, shame and embarrassment (Dinos *et al.*, 2004; Schreiber and Hartrick, 2002; Tolhurst, 2004; Wolpert, 2001).

Furthermore, preliminary quantitative evidence suggests that self-stigmatising responses may be common among people with depression (see Chowdhury *et al.*, 2001), and that people with depression believe they should be strong enough to handle their psychological problems alone, are too embarrassed to discuss it with anyone, and would feel embarrassed if friends or family knew they were seeking/receiving professional help (Hornblow *et al.*, 1990; Lin and Parikh, 1999).

However, research into self-stigma of depression has been hampered by a lack of validated measures. Most studies (see Bayer and Peay, 1997; Blumenthal and

Endicott, 1997; Cooper *et al.*, 2003; Fogel and Ford, 2005; Hornblow *et al.*, 1990; Lin and Parikh, 1999; Priest *et al.*, 1996; Van Voorhees *et al.*, 2005; Wells *et al.*, 1994) have used single questions or few items to assess responses. Moreover, the overwhelming majority of previous scales of stigma have been developed and validated for mental illness in general rather than for depression specifically [see for example, Secrecy and Withdrawal subscales (Link *et al.*, 1989); the Internalized Stigma of Mental Illness (ISMI) scale (Ritsher *et al.*, 2003); Self-Stigma Assessment Scale (SSAS) (Corrigan and Lundin, 2001); Different and Ashamed subscales (Link *et al.*, 2002); Self-Stigma of Mental Illness Scale (SSMIS) (Corrigan *et al.*, 2006); Stigma Scale for mental illness (King *et al.*, 2007); Stigma and discrimination experiences (Wahl, 1999)].

Furthermore, there has not been a clear demarcation between elements of self-stigma and elements of perceived and public stigma. In the context of internalisation, self-stigma and perceived stigma are the most relevant. *Perceived* stigma is defined as the perceptions of individuals that other people hold stigmatising beliefs and respond negatively towards sufferers; and *self*-stigma is the stigmatising beliefs and responses of the stigmatised individuals themselves (Corrigan and Watson, 2002). However, the two constructs have rarely been distinguished, and little emphasis has been given to self-stigma in the literature. One group has developed a scale which they describe as the Depression Self-Stigma Scale (DSSS) (Kanter *et al.*, 2008). However, the predominant focus of the scale is on perceived stigma.

Another potential limitation of existing self-stigma scales is that they are not underpinned by a thorough understanding of the relevant underlying constructs and may not comprehensively represent the full domain of self stigma. A more structured and comprehensive approach is required for the construction of psychometrically-sound scales

One such structured approach for examining stigma has been proposed by Jones *et al.* (1984). This approach, designed to provide a framework for understanding the stigma associated with a variety of health conditions, involves a six-dimensional structure: *Concealability* (whether or not the condition is obvious to others, and the extent to which its visibility is controllable); *course* (the typical pattern of change, and outcome of the condition); *disruptiveness* (the extent to which the condition hinders interaction and communication); *aesthetic qualities* (the extent to which it makes the sufferer repellent, ugly, or upsetting); *origin* (the circumstances under which the condition originated, including attributions of responsibility for the condition); and *peril* (the likelihood, imminence and severity of danger to others). A condition is generally considered less stigmatising if it is easily concealed, minor

and of short duration with a good outcome, non-disruptive, non-repellent, not the fault of the sufferer, and not dangerous to others (Jones *et al.*, 1984).

It has subsequently been argued that there are only two rather than six critical dimensions of stigma (the *visibility* of the condition and *controllability* by the sufferer) (Crocker *et al.*, 1998). However, it is possible that conclusions based on a broad consideration of a range of characteristics/conditions may disguise the importance of facets for individual conditions.

The aim of the current study was to develop a measure of *self*-stigma of depression [the Self-Stigma of Depression Scale (SSDS)] and to assess its validity and reliability. The scale development employed a multi-stage process incorporating focus groups and surveys. A structured approach based on that by Jones *et al.* (1984) was used to gain a comprehensive understanding of the nature of depression self-stigma and to develop relevant items. The methodology was designed to ensure that the proposed self-stigma measure reflected the views and experiences of people in the community. The scale development process was designed to involve participants both with and without personal experience of depression so that the measure has utility for (i) assessing self-stigmatising responses in people with depression; and (ii) ascertaining self-stigmatising tendencies of people in the general community prior to the onset of a depressive experience since such attitudes might be expected to impact on the future help-seeking actions of these people. The psychometric properties of the developed scale were evaluated by examining its construct validity (through factor structure and associations with other variables), internal consistency and test-retest reliability.

Methodology

The study involved four phases. In the first phase, focus group discussions were used to generate items for a self-stigma scale. A series of three surveys (Phases 2 to 4) were then used to evaluate the self-stigma items. Phases 2 and 3 were used to assess the items and investigate the dimensional structure of the scale. Phase 4 was used to validate the final self-stigma measure. All four studies were approved by The Australian National University Ethics Committee.

Participants and procedure

Scale development (Phases 1 to 3)

Focus group discussions were held with 37 participants with and without personal experience of depression (Phase

1) recruited from a depression support group (estimated response rate of 90%), newspaper advertisement, and 170 letters sent to systematically-selected names (the first name on every fifth page) from the Canberra telephone directory (response rate of 8%). Participants with and without experience of depression ($N = 23$ and $N = 14$, respectively) were allocated to separate groups based on self-report of the existence of past or present major depression according to the Diagnostic and Statistical Manual of Mental Disorders – 4th edition (DSM-IV) (American Psychiatric Association, 1994) diagnostic criteria. Discussions were guided by questions based on Jones *et al.*'s (1984) six dimensions of stigma but some themes were adapted to specifically reflect issues concerning depression: *disruptiveness* was modified to *difficulties*, which widened the concept by including problems broader than interpersonal difficulties; *aesthetic qualities* was adapted to the concept of *repellence* to incorporate undesirable attributes other than disfigurement; *peril* was renamed *threat*, and *origin* named *responsibility*. Examples of guiding questions include: 'What do you think depression is caused by?' (*responsibility*) and 'Is depression easy to conceal from other people?' (*concealability*). Material relevant to self-stigmatising beliefs and responses was elicited and, using the discussion transcripts, 19 items were developed to measure participants' anticipated or experienced self-stigmatising beliefs and responses to depression. For example, [if I had depression] 'I would think I only had myself to blame'.

Items developed from the focus group phase were pilot-tested (Phase 2) in a questionnaire along with other measures and a depression vignette (refer to Questionnaire measures section) with 408 first-year university psychology students (estimated response rate 95%) during lecture time for course credit. Participants ranged in age from 17 to 56 years ($\bar{X} = 22.2$ years), of whom 278 were female and 130 were male; 51% reported they had personally experienced depression.

Responses to individual items were examined using descriptive statistics and plots, and factor analyses were conducted. Findings showed a good range of responses to the items. A series of factor analyses were run and the adequacy of each factor solution was assessed according to the statistical indicators, theoretical coherence of the factors, simplicity of the factor loadings, and the original goal of the factor analysis (i.e. to develop a moderate-length measure containing subscales). Factor loadings were interpreted using the criterion where 0.32 and above constitutes a factor loading. Theoretical appropriateness was deemed to exist where items loaded onto factors that comprised other items which appeared to reflect the same construct. Consideration of these elements indicated that a

four-factor solution was the most satisfactory. The factors were named 'Embarrassment/Shame', 'Self-Blame', 'Self-Coping', and 'Inadequacy'. Based on the findings, one item was deleted as it appeared to reflect the concept of perceived stigma, and seven new items were added for the purpose of clarifying the underlying themes of coping with depression (i.e. responses of self-blame for not coping, and expectations of resolving depression through self-coping/without help from others) and self-inadequacy. These items were generated from a consideration of the literature (e.g. Bayer and Peay, 1997; Chowdhury *et al.*, 2001; Cooper *et al.*, 2003; Fogel and Ford, 2005; Holloway, 2001; Hornblow *et al.*, 1990; Lin and Parikh, 1999; Priest *et al.*, 1996; Raguram *et al.*, 1996; Ritsher *et al.*, 2003; Van Voorhees *et al.*, 2005).

Members of the Internet network of *beyondblue: the national depression initiative* – involving consumers, carers and primary support people – were invited to complete a questionnaire containing the 25 self-stigma items (Phase 3) along with the other measures described in the Phase 4 section later. The 330 participants (response rate of 7%) ranged in age from 17 to 70 years ($\bar{X} = 42.3$ years) and comprised 262 females and 68 males; 86% reported they had personally experienced depression.

Items were examined as described in Phase 2. Similarly, the range of responses was good and a four-factor solution was optimal for the data. The factors were named 'Shame', 'Self-Blame', 'Help-Seeking Inhibition', and 'Social Inadequacy'. The names were modified from those assigned in the previous phase in order to reflect the refinement of the concepts incorporated within each factor as a consequence of the inclusion of additional items.

Scale validation (Phase 4)

Seven thousand questionnaires were sent to a random selection of residents in an electorate in New South Wales, Australia. Electoral registration is compulsory in Australia. There were 1312 respondents (response rate of 19%), of which 1105 participants indicated they were willing to complete a follow-up questionnaire. Of these, 200 were randomly selected and mailed a follow-up questionnaire two months after the initial questionnaire. Of these, 151 completed questionnaires were received.

Questionnaire measures

Self-stigma

Self-stigma was assessed using the 25 items developed (see items comprising the final scale in Table 1). Participants

Table 1 Self-Stigma Depression Scale (SSDS): item descriptives, communalities and factor loadings

Item	Mean	Standard deviation	Skewness	Kurtosis	Factor				Extracted communalities
					1	2	3	4	
6. Feel ashamed	3.45	1.06	-0.28	-0.83	<i>0.88</i>	-0.01	0.02	-0.05	0.74
2. Feel embarrassed	3.61	0.98	-0.48	-0.56	<i>0.69</i>	0.00	0.01	-0.04	0.45
8. Feel inferior to other people	3.73	1.04	-0.67	-0.34	<i>0.58</i>	0.02	0.08	0.24	0.62
7. Feel disappointed in myself	4.04	0.88	-1.11	1.22	<i>0.57</i>	0.16	0.00	0.11	0.53
13. Think I should be able to cope with things	3.93	0.84	-1.01	1.11	-0.02	<i>0.88</i>	-0.04	-0.09	0.71
12. Think I should be able to 'pull myself together'	3.87	0.93	-1.01	0.76	0.00	<i>0.79</i>	0.01	-0.04	0.61
14. Think I should be stronger	4.02	0.76	-1.03	1.73	0.09	<i>0.68</i>	0.01	0.10	0.58
15. Think I only had myself to blame	3.24	1.06	-0.08	-0.93	0.07	<i>0.34</i>	0.15	0.18	0.30
24. Feel embarrassed about seeking professional help for depression	3.00	1.22	0.07	-1.21	0.00	-0.07	<i>0.89</i>	-0.05	0.74
25. Feel embarrassed if others knew I was seeking professional help for depression	3.37	1.16	-0.33	-1.02	0.07	-0.10	<i>0.81</i>	-0.01	0.65
23. See myself as weak if I took antidepressants	3.24	1.17	-0.16	-1.05	-0.04	0.12	<i>0.67</i>	-0.05	0.47
22. Wouldn't want people to know that I wasn't coping	3.89	0.92	-0.84	0.23	0.01	0.08	<i>0.38</i>	0.17	0.25
19. Feel I couldn't contribute much socially	3.84	0.85	-0.92	0.92	0.02	-0.02	0.02	<i>0.79</i>	0.64
18. Feel inadequate around other people	3.84	0.84	-0.91	0.88	0.25	-0.02	0.00	<i>0.65</i>	0.66
16. Feel like I was good company ^a	3.71	0.85	-0.83	0.63	-0.08	0.00	0.00	<i>0.59</i>	0.30
17. Feel like a burden to other people	3.72	0.87	-0.80	0.37	0.18	0.05	0.01	<i>0.52</i>	0.44

Note: Determined factor of item in italic typeface > 0.32. Factor 1: Shame, Factor 2: Self-Blame, Factor 3: Help-Seeking Inhibition, Factor 4: Social Inadequacy.
^a Reverse-scored item.

were asked to indicate how they would think of or feel about themselves if they were depressed (e.g. 'I would think of myself as a failure'). To generate a shared understanding of what constitutes depression, questionnaires incorporated a vignette that described a person ('John') with depressive symptoms meeting the DSM-IV (American Psychiatric Association, 1994) criteria for major depression and provided a diagnosis of depression. Responses to the self-stigma items were measured on a five-point scale (ranging from one 'strongly agree' to five 'strongly disagree'). One item in the final measure (item 16) was reversed to enable retention of the wording expressed by participants. Items were coded so that a higher score indicated greater self-stigma.

Perceived social distance

Perceptions of discriminatory attitudes and behaviour by others were measured using a modified version of a five-item version of the Social Distance Scale (Bogardus, 1925; Link *et al.*, 1999). Items were prefixed with the words 'most people' in order to assess perceptions of stigma.

Help-seeking likelihood

The likelihood of help-seeking from specific informal and professional sources was measured using constructed items, one item for each source. The selection of sources took into consideration Jorm *et al.*'s (2000) list of interventions used for depression and anxiety. The items used in the present study included a close friend/close family member, work-mate/supervisor, general practitioner (GP) and psychiatrist. Participants were asked to imagine they were depressed, and to indicate their likelihood of help-seeking from each source on a five-point response scale ranging from extremely likely (scored as one) to extremely unlikely (scored as five). Items were recoded so that a higher score indicated greater likelihood of seeking help.

Depressive symptoms

Current depressive symptoms were measured using the PRIME-MD PHQ-9 (Primary Care Evaluation of Mental Disorders Patient Health Questionnaire) (Spitzer *et al.*, 1999).

Self-esteem

Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965).

Depression experience

Personal experience of depression was determined by response (yes or no) to the item 'I have experienced depression myself'. This item was used to assess depression experience as it was considered that self-labelling might be more relevant to self-stigma than a PHQ-9-type definition.

Demographics

Participants were asked to indicate their gender, age and education level.

Analyses were performed using SPSS v15. Missing values of self-stigma items in all analyses (<1% for all items) were estimated using the Expectation Maximisation (EM) method. All factor analyses were conducted using Principal Axis Factoring (PAF) and oblique rotation using the Direct Oblimin method.

Results

This section reports the findings from the scale validation process conducted in Phase 4.

Participants

The 1312 respondents ranged in age from 18 to 89 years (\bar{X} = 50.9 years), comprising 496 males and 796 females. Fifty-eight per cent had completed six years of secondary schooling and an additional 23% held a bachelor's degree; 55% reported they had personally experienced depression; and 67% (N = 846) reported no current depression according to PHQ-9 criteria (refer to Kroenke *et al.*, 2001) (cutoff score <5), 17% (N = 218) met criteria for mild depression (score \geq 5 and <10), and 16% met criteria for moderate to severe depression (score \geq 10).

Item-level analysis

Responses to individual items were examined using descriptive statistics and plots. A full range of responses (categories one through to five) was evident for all self-stigma items although mild to moderate negative skewness and kurtosis was evident for many of the items (refer to Table 1).

Factor analysis

Preliminary investigation suggested that solutions comprising between two and five factors may be appropriate, and separate factor analyses were conducted to assess each

of these solutions. The criteria for determining the number of factors were multi-faceted, taking into account the Kaiser criterion, scree plot and amount of variance explained, but with an emphasis on interpretability. Of the possibilities, the four-factor solution generated the most comprehensible factor structure and was considered optimal. Item performance was evaluated and removal of items was conducted in a step-by-step process. Nine items were removed on the basis of low communalities, measures of sampling adequacy (MSAs) and factor loadings, lesser theoretical clarity, and lesser consistency of loadings across the studies. The final factor analytic solution comprised 16 items. It provided a Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy of 0.88 and explained 54.3% of the variance. Communalities were at least 0.30 for all items except one ('wouldn't want people knowing I wasn't coping'). MSAs for all individual items were over 0.7, and only one residual had a value greater than 0.5.

Four items assessing shame about not coping with problems formed one factor named 'Shame'; four items assessing responsibility for being depressed comprised a second factor named 'Self-Blame'; four items assessing expectations for self-coping comprised a third factor named 'Help-Seeking Inhibition'; and four items assessing social inadequacy and burden comprised a fourth factor named 'Social Inadequacy'. Before rotation, Shame explained 32.5% of the variance; Self-Blame 9.1%; Help-Seeking Inhibition 8.7%; and Social Inadequacy 3.9%.

The factor correlation matrix showed that the four factors were intercorrelated: Factor 1 to Factor 2 ($r = 0.42$); Factor 1 to Factor 3 ($r = 0.42$); Factor 1 to Factor 4 ($r = 0.57$); Factor 2 to Factor 3 ($r = 0.32$); Factor 2 to Factor 4 ($r = 0.29$); Factor 3 to Factor 4 ($r = 0.31$).

The measure was named the SSDS. Item descriptives, communalities, and factor loadings are provided in Table 1.

The conceptualisation of the scale and earlier findings suggested the possible existence of a higher-order factor of self-stigma comprising the four factors of Shame, Self-Blame, Help-Seeking Inhibition and Social Inadequacy. To test this possibility, a confirmatory factor analysis was carried out using AMOS software. The factor of Shame was assigned as the reference indicator, its regression coefficient fixed to one, and its residual variance fixed to zero because the estimate was negative (although small). The minimum required number of parameters to enable identification were constrained to one and all remaining parameters allowed to be free. Maximum likelihood estimation was employed and the following fit indices were obtained: $\chi^2 = 760.77$, $df = 101$, $p = 0.000$; Tucker-Lewis Index

(TLI) = 0.910, comparative fit index (CFI) = 0.924, root mean square error of approximation (RMSEA) = 0.071. According to recommendations that TLI and CFI should be >0.9 and RMSEA < 0.08 (Browne and Cudeck, 1993; Hu and Bentler, 1999), the results indicated adequate fit.

Multigroup modelling was then used to assess whether the instrument performed consistently across participants with differing levels of depression. Three groups were created using the PHQ-9 cutoff scores (no current depression, mild depression, moderate to severe depression), and the model was fit simultaneously to the groups. Fit indices were $\chi^2 = 955.13$, $df = 303$, $p = 0.000$; TLI = 0.909, CFI = 0.924, RMSEA = 0.041, indicating that the overall fit was relatively consistent across the groups. Additionally, comparison of regression weights across the groups confirmed that scale performance was similar across participants with all levels of depressive symptoms.

Internal consistency

Cronbach alphas were 0.87 for the total SSDS, 0.83 for Shame, 0.78 for Self-Blame, 0.79 for Help-Seeking Inhibition; and 0.79 for Social Inadequacy.

Scale distribution and descriptives

Examination of composite score histograms for the four subscales and total SSDS indicated that all of the distributions displayed negative skewness (skewness and kurtosis, respectively: Total SSDS: -0.29 , 0.27 ; Shame: -0.49 , -0.02 ; Self-Blame: -0.44 , 0.43 ; Help-Seeking Inhibition: -0.12 , -0.66 ; and Social Inadequacy: -0.73 , 0.93 .), with Help-Seeking Inhibition being the most normally distributed of the subscales. Descriptive statistics for the scales are shown in Table 2.

Scale means for participants according to level of current depression (i.e. no depression, mild depression, moderate to severe depression, respectively) were as follows: Total SSDS: 57.76, 59.04, 61.05; Shame: 14.63, 15.02, 15.61; Self-Blame: 14.95, 15.14, 15.47; Help-Seeking Inhibition: 13.19, 13.67, 14.51; and Social Inadequacy: 14.99, 15.22, 15.47.

Associations of variables

Further assessment of construct validity was undertaken by examining the associations between self-stigma and other variables. Associations of stigma with continuous variables were evaluated using Pearson correlations, and with categorical variables using t -tests comparing independent groups.

Table 2 Correlates (and 95% confidence intervals) and descriptives of the SSDS and its factors

Variable	SSDS subscales						Mean	Standard deviation
	SSDS Total	Self-Blame	Shame	Help-Seeking Inhibition	Social Inadequacy			
SSDS Total	–	0.70** (0.67–0.73)	0.83** (0.82–0.85)	0.72** (0.70–0.75)	0.72** (0.70–0.75)	0.72** (0.70–0.75)	58.49	9.07
SSDS Self-Blame	0.70** (0.67–0.73)	–	0.46** (0.42–0.50)	0.33** (0.29–0.38)	0.33** (0.29–0.38)	0.33** (0.29–0.38)	15.06	2.80
SSDS Shame	0.83** (0.82–0.85)	0.46** (0.42–0.50)	–	0.40** (0.36–0.45)	0.40** (0.36–0.45)	0.58** (0.55–0.62)	14.84	3.25
SSDS Help-Seeking Inhibition	0.72** (0.70–0.75)	0.33** (0.29–0.38)	0.40** (0.36–0.45)	–	0.29** (0.24–0.34)	0.29** (0.24–0.34)	13.49	3.52
SSDS Social Inadequacy	0.72** (0.70–0.75)	0.33** (0.29–0.38)	0.58** (0.55–0.62)	0.29** (0.24–0.34)	–	–	15.10	2.66
Perceived social distance	0.23** (0.18–0.29)	0.05 (0–0.11)	0.19** (0.14–0.25)	0.17** (0.12–0.23)	0.28** (0.23–0.33)	0.28** (0.23–0.33)	13.60	2.49
Seek support friends/family	–0.13** (–0.19 to –0.08)	–0.01 (–0.06–0.04)	–0.05 (–0.10–0)	–0.25** (–0.31 to –0.20)	–0.05 (–0.10–0)	–0.05 (–0.10–0)	2.79	1.16
Seek support colleague	–0.21** (–0.27 to –0.16)	–0.08** (–0.13 to –0.03)	–0.09** (–0.15 to –0.04)	–0.31** (–0.37 to –0.27)	–0.13** (–0.19 to –0.08)	–0.13** (–0.19 to –0.08)	1.29	1.08
Consult GP	–0.20** (–0.26 to –0.15)	–0.08** (–0.13 to –0.03)	–0.08** (–0.13 to –0.03)	–0.34** (–0.39 to –0.29)	–0.05 (–0.10–0)	–0.05 (–0.10–0)	2.80	1.11
Consult psychiatrist	–0.22** (–0.28 to –0.17)	–0.10** (–0.16 to –0.05)	–0.08** (–0.13 to –0.03)	–0.35** (–0.40 to –0.31)	–0.07** (–0.12 to –0.02)	–0.07** (–0.12 to –0.02)	1.88	1.23
Depressive symptoms	0.15** (0.10–0.21)	0.06* (0–0.12)	0.12** (0.07–0.18)	–0.15** (–0.21 to –0.10)	0.10** (0.05–0.16)	0.10** (0.05–0.16)	4.58	5.62
Self-esteem	–0.14** (–0.20 to –0.09)	–0.00 (–0.05–0.05)	–0.13** (–0.19 to –0.08)	–0.13** (–0.19 to –0.08)	–0.14** (–0.20 to –0.09)	–0.14** (–0.20 to –0.09)	31.82	5.45
Age	–0.23** (–0.29 to –0.18)	–0.15** (–0.21 to –0.10)	–0.21** (–0.27 to –0.16)	–0.18** (–0.24 to –0.13)	–0.14** (–0.20 to –0.09)	–0.14** (–0.20 to –0.09)	50.85	15.28
Education	0.02 (–0.04–0.08)	–0.06* (–0.12–0)	0.04 (–0.01–0.09)	0.02 (–0.04–0.08)	0.05 (–0.01–0.11)	0.05 (–0.01–0.11)	3.67	1.20

* $p < 0.05$; ** $p < 0.01$.

Perceived social distance

Weak associations existed between perceived social distance and the total SSDS, Shame, Social Inadequacy and Help-Seeking Inhibition (see Table 2), with greater perceived social distance being associated with greater self-stigma. However, there was no association between perceived social distance and Self-Blame.

Help-seeking likelihood

The total SSDS and Help-Seeking Inhibition subscale were weakly to moderately associated with help-seeking from all sources, with higher self-stigma being associated with being less likely to seek help (refer to Table 2). Of these two measures, Help-Seeking Inhibition had the strongest associations with help-seeking from all sources.

Depression

All SSDS measures were associated with depression, such that people with greater depressive symptoms reported higher self-stigma (refer to Table 2). However, the associations were weak or very weak.

Self-esteem

Weak relationships were evident between self-esteem and the total SSDS, Shame, Social Inadequacy and Help-Seeking Inhibition, such that low self-esteem was

associated with high self-stigma (see Table 2). There was no association between self-esteem and Self-Blame.

Experience of depression

t-Tests revealed no significant differences in self-stigmatising responses between participants with and without depression experience on any scale (refer to Table 3).

Demographic variables

Females reported higher on all scales except for Help-Seeking Inhibition, where males were higher (refer to Table 3).

There was a weak association between self-stigma and age, with younger people reporting significantly higher self-stigma for all measures (see Table 2). By contrast, education was only associated with the Self-Blame subscale, and this relationship was very weak.

Test-retest reliability

There was no significant difference between initial and retest mean scores on any scale except for Social Inadequacy, which was significantly lower on retest [$t(150) = 2.08, p = 0.039$] although the effect size was small (Cohen's $d = 0.17$).

Table 3 Mean values (*M*), standard deviations (SDs), and significance of group differences in scores on the SSDS and its factors

Variable	SSDS subscales									
	SSDS Total		Self-Blame		Shame		Help-Seeking Inhibition		Social Inadequacy	
	<i>M</i>	SD	<i>M</i>	SD	<i>M</i>	SD	<i>M</i>	SD	<i>M</i>	SD
Gender										
Male	57.40	8.54	14.57	2.53	14.36	3.08	13.88	3.40	14.59	2.77
Female	59.17	9.32	15.37	2.91	15.12	3.33	13.28	3.58	15.41	2.54
Significance		**		**		**		**		**
Depression experience										
Yes	58.46	9.66	15.02	2.96	14.84	3.45	13.48	3.72	15.13	2.82
No	58.56	8.29	15.12	2.60	14.84	2.99	13.52	3.27	15.07	2.46
Significance		n.s.		n.s.		n.s.		n.s.		n.s.

* $p < 0.05$; ** $p < 0.01$; n.s., not significant.

Intraclass correlations between the original and retest scores were moderate, SSDS Total ($\hat{\rho} = 0.63$, $p = 0.000$); Shame ($\hat{\rho} = 0.56$, $p = 0.000$); Self-Blame ($\hat{\rho} = 0.54$, $p = 0.000$); Help-Seeking Inhibition ($\hat{\rho} = 0.63$, $p = 0.000$), and Social Inadequacy ($\hat{\rho} = 0.49$, $p = 0.000$).

Discussion

Following a multi-stage process incorporating both qualitative and quantitative methods, we have developed the first stigma scale for depression that focuses on *self*-stigma. The 16-item SSDS comprises four facets: Shame, Self-Blame, Help-Seeking Inhibition and Social Inadequacy. As discussed later, factor analytic findings and the pattern of associations between the SSDS and other variables suggest that the scale has adequate construct validity. Other findings are indicative of adequate internal consistency and test-retest reliability.

The similarity of findings across different samples is indicative of good construct validity. Although direct comparisons of factor composition across the three quantitative studies were limited by the addition of new items, overall, the factor structure found in Phase 4 confirmed the structure determined in the earlier phases. Where comparison of matched items allowed, item-factor composition was predominantly consistent across the studies and differences in factor loadings were relatively modest. In addition to the similarity of their factor structures, the factor intercorrelations in the three phases were similar in magnitude, particularly for Phases 3 and 4, where the items were the same. Findings from Phase 4 indicate that the instrument performs consistently regardless of the level of current depressive symptoms.

The moderate associations found between the three factors (Shame, Self-Blame, and Help-Seeking Inhibition) containing items originally developed to reflect elements of responsibility support the notion of a shared conceptual theme. Responses of shame about having depression, self-blame for not coping, and expectations for resolving depression through self-coping may all be seen as relating to the theme of self-responsibility for being depressed. This is consistent with the strong emphasis in the theoretical literature on the dimension of *responsibility*. According to Jones, Crocker and colleagues (Crocker *et al.*, 1998; Jones *et al.*, 1984), attributions of responsibility for the emergence and continuing existence of conditions are of critical importance to the subjective experience of stigmatised individuals: the extent to which sufferers view their condition as being controllable influences how they respond to the stigma (for example, self-acceptance).

The fourth factor of Social Inadequacy comprises items originally developed to measure a variety of dimensions, but the associations found here illustrate that they can be drawn together to form a common theme of feelings of self-inadequacy with reference to other people. The degree of association evident between this factor and that of Shame suggests there is an element of shame in feeling inferior to others. This dimension of stigma is not one typically specified in stigma theory and its emergence in the context of depression may reflect the nature of the condition. Unlike those with more visible conditions, sufferers of depression may be able to conceal their condition from others. As a consequence, however, they may fear discovery and struggle with decisions about whether, when and how to reveal their stigmatising condition (Crocker *et al.*, 1998; Jones *et al.*, 1984). Not only may such feelings become debilitating and preclude social behaviour (Jones *et al.*, 1984), but concealability also reduces the opportunity to identify similar others and benefit from group membership (Corrigan and Watson, 2002). It is, therefore, understandable that people with depression may feel uncomfortable in social situations and experience feelings of inferiority.

Overall, validation of the SSDS through comparison to other research findings was restricted by the scarcity of existing evidence in this area. Not only is there a lack of other measures of self-stigma for depression, but also there are few measures aimed at assessing self-stigma for mental illness in general.

There is no published literature on depression to which the present findings regarding self-stigma and perceptions of stigma can be compared. However, the convergent association between perceived social distance and the SSDS measures (with the sole exception of Self-Blame) is consistent with the notion that people who believe they are unworthy and socially inferior and who are concerned about seeking help would also expect that others would view them negatively and prefer not to interact with them. It is also consistent with Corrigan and Watson's (2002) theory that self-stigma arises from awareness of and agreement with negative stereotypical beliefs held by wider society.

Regarding self-stigma and help-seeking, the finding that self-stigma overall was associated with help-seeking from professional sources is consistent with previous evidence that self-stigma is a barrier to professional help-seeking for depression (e.g. Meltzer *et al.*, 2000; Thompson *et al.*, 2004). However, the ability to validate the SSDS using prior research is restricted because previous measures of self-stigma have involved isolated items rather than psychometrically-tested scales. Furthermore, there is no

known research on the impact of self-stigma on *informal* help-seeking to compare with the current findings.

With respect to the different measures of self-stigma, overall self-stigma (SSDS Total) and Help-Seeking Inhibition are the strongest influences on help-seeking likelihood. Such findings might be expected in relation to help-seeking from professionals because the majority of items comprising the Help-Seeking Inhibition subscale were aimed specifically at professional help-seeking. However, it is interesting to note that Help-Seeking Inhibition is also strongly and negatively associated with help-seeking from informal sources. It suggests there may be a component of generalised embarrassment or humiliation about disclosing depression and/or needing assistance for such problems.

Although the lack of relevant existing measures restricts the assessment of validity through comparison, there are some indications that the associations found between self-stigma, depressive symptoms and self-esteem are indicative of construct validity. The current finding that people with higher depressive symptoms report greater self-stigma is consistent with the findings of a previous study which used a modified version of the SSAS, a measure originally developed for mental illness in general (Yen *et al.*, 2005), and between self-stigma about mental illness and depressive symptoms (see Corrigan *et al.*, 2006; Link *et al.*, 2002; Ritsher and Phelan, 2004). Additionally, although no prior studies to our knowledge have examined the association between self-esteem and self-stigma of depression, the current findings – that overall, people with low self-esteem report higher self-stigma – are consistent with previous research addressing self-stigma and mental illness in general (e.g. Corrigan *et al.*, 2006; King *et al.*, 2007; Link *et al.*, 2002; Ritsher and Phelan, 2004). The modest size of the SSDS associations with depression and self-esteem in the current context are seen as desirable because the construct of self-stigma should be distinct from those of depression itself and self-esteem.

It is of interest that the SSDS measure yielded no difference in levels of self-stigma between people who had experienced depression personally and those who had not. Although there is no directly comparable literature, Yen *et al.* (2005) found no difference in the level of self-stigma amongst outpatients with depression who had or had not been hospitalised for depression. Moreover, they reported no difference in self-stigma levels as a function of the duration of depressive illness. Such findings indicate that differences in experiences of depression may not influence self-stigma. The lack of difference in SSDS scores for those with and without a history of depression might be interpreted as further evidence of its construct validity. It would

appear that self-stigmatising responses are not attributable to the depressive experience itself but instead appear to be widely-held beliefs about what depression is and how people should cope with their problems.

The fact that the SSDS was developed to assess self-stigmatising attitudes in people with and without current depression represents a conceptual difference between this scale and other existing measures of self-stigma. The phrasing of the items (i.e. '... how would you respond *if you were depressed?* ...') enabled participants to provide a response regardless of their current depression status. Based on the assumptions of the social cognitive model explaining stigma (refer to Crocker and Lutsky, 1986), it was expected that people would draw on their own experiences when responding to items (whether they relate to personal experience of depression, or experience as carers, friends or colleagues of those with depression). Responses in the current context might therefore be termed 'anticipated self-stigma', although consistency of responses across groups suggests that actual and imagined self-responses are essentially equivalent. Further evaluation of performance using relevant samples is needed, but it is likely that the SSDS will be appropriate for use in inpatient settings. In such circumstances, the stems could be modified to ask participants directly for their self-stigmatising attitudes.

As noted previously, other differences are evident between the SSDS and previously published stigma measures. In contrast with the overwhelming majority of research into self-stigma of mental illness and resulting scale development (e.g. by Corrigan and colleagues), the SSDS focuses specifically on depression rather than mental illness in general and does not include constructs that are not relevant to the condition. This is important because stigma is theorised to vary across health conditions (Jones *et al.*, 1984), and it is known that the nature of stigma about depression differs from that associated with other forms of mental illness (Crisp *et al.*, 2005).

The other critical difference between the SSDS is that it does not confound self-stigma and perceived stigma. According to Link's (1987) model, the process of self-stigma begins with the awareness of devaluation and discrimination by others; that is, people internalise the stigma they perceive around them. Perhaps because of this, many existing measures of self-stigma (e.g. the DSSS and ISMI) are comprised predominantly or contain some perceived stigma items. However, it has been argued that there is a distinction between the two constructs (Watson and River, 2005). Accordingly, it is appropriate that the SSDS confines itself to self-stigma constructs and that existing measures comprising elements of perceived stigma are not used to validate the SSDS.

Limitations

A number of limitations in this project are acknowledged. The research relied on self-reports, the help-seeking measure has not been formally validated, and the design was cross-sectional. Response rates were generally not high and the samples (particularly in relation to gender) were not necessarily representative of the wider community. Notably, prevalence of current depression and personal experience with depression in the present sample are not representative of the population. Nonetheless, such sample characteristics are unlikely to have created problematic bias for item development, or to have led to different distributions and associations between items (the critical issue in a scale development context). This expectation is supported by the finding that the instrument performs consistently regardless of current depressive symptoms. Of more importance and as previously noted, some of the effect sizes were small, and the amount of variance explained by the factor solution was modest. Additionally, validation of the SSDS through comparison to other research findings was restricted by the scarcity of relevant existing measures. However, this limitation also highlights the fact that the SSDS – with its sole focus on self-stigma – has the potential to make an important contribution to the research literature.

Conclusions

The SSDS broadly meets psychometric criteria for establishing validity and reliability, assesses only self-stigmatising responses to depression, and yields in-depth information about the critical dimensions of self-stigma

about depression. The development of the scale content directly from the views expressed by people with experience of depression maximises its relevance, and such validity is one of the strengths of the SSDS. The SSDS is suitable for assessing self-stigma in a variety of community settings. It can be used to examine existing stigma in people experiencing depression, as well as to assess self-stigmatising tendencies in those without current depressive symptoms. With the availability of a psychometrically sound measure of self-stigma it will be possible to ascertain the nature and degree of negative self-responses to depression, target aspects of self-stigma to address with appropriately designed destigmatisation programmes, and monitor the effectiveness of these interventions in producing the desired changes.

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Declaration of interest statement

The authors have no competing interests.

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